



Dart Aerospace Ltd.  
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**D206-667-207BL**  
**Job Sheet 186178**



Part No: D206-667-207BL

Job Qty: 1 ea

Part Name: Aft Crosstube - Mid Height 206L / L1 / L3 / L4, Blue



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 11/12/18

Job Tracking No:

Due Date: 12/14/18

Created By: Marie Lajeunesse

Type: SOLD

Description:

Ship Via:

### Bill of Materials

### Job Routing

| Op No | Operation           | Qty   | Start Date | Due Date | Standard  |         | Workcenter/Supplier    |           | Sign-off          |
|-------|---------------------|-------|------------|----------|-----------|---------|------------------------|-----------|-------------------|
|       |                     |       |            |          | Setup Hrs | Run Hrs | Workcenter / Supplier  | Lead Time |                   |
| 90    | Start up Operation  | 1 Ea  |            | 12/14/18 | 0.00      | 0.00    | Start Up Crosstubes-1  |           | GP 2018-11-20     |
| 110   | CNC Bend Crosstubes | 1 pcs |            | 12/14/18 | 0.00      | 4.35    | CNC Bend Crosstube     |           | GP 2018-11-20     |
| 120   | QC                  | 1 pcs |            | 12/14/18 | 0.00      | 0.00    | QC15                   |           | 38                |
| 130   | Crosstubes          | 1 pcs |            | 12/14/18 | 0.00      | 2.86    | Crosstubes-1           |           | GP 2018-11-27     |
| 140   | HandFXtube          | 1 pcs |            | 12/14/18 | 0.00      | 0.55    | HandFinish5            |           | GP 2018-11-27     |
| 150   | QC                  | 1 pcs |            | 12/14/18 | 0.00      | 0.00    | QC7-1                  |           | 38 DAS            |
| 160   | QC                  | 1 pcs |            | 12/14/18 | 0.00      | 0.00    | QC5                    |           | 9-89 38           |
| 170   | Outsource           | 1 pcs |            | 12/14/18 |           |         | SKY002-VC              | 1         | QC18-11-20        |
| 180   | Packaging           | 1 pcs |            | 12/14/18 | 0.00      | 0.00    | Packaging2             |           | DEC 19 2018       |
| 190   | QC                  | 1 pcs |            | 12/14/18 | 0.00      | 0.00    | QC5                    |           | 38                |
| 200   | Outsource           | 1 pcs |            | 12/14/18 |           |         | ATE003-VC              |           | N/R               |
| 205   | Packaging 195 Spray | 1 pcs | Paint      | 12/14/18 | 0.00      | 0.00    | Packaging2 Spray Paint |           | AS 18-12-3        |
| 210   | QC                  | 1 pcs |            | 12/14/18 | 0.00      | 0.00    | QC14                   |           |                   |
| 220   | Crosstubes          | 1 pcs |            | 12/14/18 | 0.00      | 2.86    | Crosstubes-1           |           | AS 18-12-7        |
| 230   | Crosstubes          | 1 pcs |            | 12/14/18 | 0.00      | 1.91    | Crosstubes-1           |           | AS 18-12-7        |
| 240   | QC                  | 1 pcs |            | 12/14/18 | 0.00      | 0.00    | QC5                    |           | 38                |
| 250   | Packaging           | 1 pcs |            | 12/14/18 | 0.00      | 0.00    | Packaging1-2           |           | DAS DEC 19 2018   |
| 260   | QC                  | 1 pcs |            | 12/14/18 | 0.00      | 0.00    | QC4                    |           | 21 46 DEC 19 2018 |
| 265   | DC                  | 1 pcs |            | 12/14/18 | 0.00      | 0.00    | DC                     |           | 9-89 DEC 19 2018  |
| 270   | Packaging           | 1 pcs |            | 12/14/18 | 0.00      | 0.00    | Packaging3-1           |           | 46 DEC 19 2018    |
| 280   | QC21-FG             | 1 Ea  |            | 12/14/18 | 0.00      | 0.00    | QC21                   |           | 9-89              |

Part Op 110 - Bend tube as per Dwg D206-667-247 using CNC bender program D206-667-207

Descriptions: 120 - QC15- Crosstube Dimensional Check

130 - \*\*\*\*\* ENSURE PROPER JIG POSITIONING BEFORE DRILLING\*\*\*\*\* , VERIFIED BY: \*\*\*\*\* 1-Drill pilot holes in tube using drill Jig DT8583 & DT8584 as per Dwg D206-667-247. Drill all (3) top holes. Holes facing inboard. Drill and Ream all holes in tube to finish size using drill Jig DT8583 & DT8584 as per Dwg D206-667-247 \*\*\*\*\* ENSURE PROPER JIG POSITIONING BEFORE DRILLING\*\*\*\*\* , VERIFIED BY: \*\*\*\*\* 2- Drill fwd rivet holes using drill Jig DT8787 fwd as per Dwg D206-667-247. Note: FWD side has 3X top holes facing inboard. 3- C'sink holes as per dwg D206-667-247. Allow rivet to sit below surface to compensate for paint. 4- Flip tube and switch drilling Jigs from right to left, left to right. Locate Jigs off existing holes using "T" pins. Drill ONLY 2 top holes ONLY plug most bottom hole to prevent accidental drilling. Drill holes and ream using drill Jig DT8583 & DT8584 as per Dwg D206-667-247. Drill only the top (2) holes. Drill & ream the top (2) hole

140 - Crosstubes Chemical Conversion \*\*\*IMMEDIATELY AFTER GRINDING\*\*\* 1- PRESSURE WASH X-TUBE INSIDE AND OUT 2- ALODINE AND ACID ETCH X-TUBE INSIDE AND OUT AS PER QSI005.

150 - QC7-Inspect Chemical Conversion Coat

160 - QC5- Inspect part completeness to step on W/O





**Container No: S129452**



**Part: D206-667-207BL**

**Job No: 186178**

**Serial No/Batch: S129452**

**Revision:**

**Inspector:**

**Exp Date:**

**Instructions: TC STC SH01-5 Issue 3, FAA STC SR01304NY 05/12/15, JCAB JAI**

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www.dartaerospace.com



170 - Outsource process - NDT per QSI038 4.1 \*\*\* WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE\*\*\* Liquid Penetrant Inspection as per QSI 038Or Issue P/O: 041902 LPI as per ASTM 1417 Level 2 Attach copy of NDT results to work order

180 - Receive & Inspect for Damage & Mat'l Certs \*\*\* WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE\*\*\* Ensure copy of NDT results attached to work order.

190 - QC5- Inspect part completeness to step on W/O \*\*\* WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE\*\*\* Ensure results are as per Dwg D206-667-247

200 - ISSUE PO \_\_\_\_\_ \*\*\* WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE\*\*\* \*\*\*VERIFY BY \_\_\_\_\_ BATCH # TO MATCH W/O \_\_\_\_\_ \*\*\*VERIFY BY \_\_\_\_\_ PART # TO MATCH W/O \_\_\_\_\_ \*\*\*MASK SCRIBE B# & P# AND VERIFY\*\*\* 1-Prime inside and outside crosstube as per QSI 005 4.2 2-Paint outside crosstube as per QSI 005 4.2 PRIME: Start Time: \_\_\_\_\_ Finish Time: Prime SJ35773 PAINT: DELFLEET BLUE 138785 Start Time: \_\_\_\_\_ Finish Time: \_\_\_\_\_ CLEAR DELFLEET B S130712

205 - Receive & Inspect for Damage & Mat'l Certs

210 - QC14- Inspect Spray Paint Wrap in plastic bag to protect from scratches \*\*\*VERIFY BY \_\_\_\_\_ BATCH # TO MATCH W/O \_\_\_\_\_ \*\*\*VERIFY BY \_\_\_\_\_ PART # TO MATCH W/O \_\_\_\_\_

220 - 1-Install nut plates as per Dwg D206-667-247.

230 - 1-Abrade mating surfaces of support and crosstube with 400 grit sandpaper, clean the area with 4105S wash 'n' wipe 2-Install supports with Proseal 890 per DSI9565 and QSI 015 A/R Proseal 890 Batch: S138976 3- Torque bolts as per dwg exp 6/19

240 - QC5- Inspect part completeness to step on W/O \*\*\*VERIFY BY \_\_\_\_\_ BATCH # TO MATCH W/O \_\_\_\_\_ \*\*\*VERIFY BY \_\_\_\_\_ PART # TO MATCH W/O \_\_\_\_\_

250 - Pick Kit

260 - QC4- 100% Inspect kits for completeness \*\*\*VERIFY BY \_\_\_\_\_ BATCH # TO MATCH W/O \_\_\_\_\_ \*\*\*VERIFY BY \_\_\_\_\_ PART # TO MATCH W/O \_\_\_\_\_

265 - Document Control Photocopy bluefile and create labels as per PPP D206-667-207 chg 002

270 - Identify as per dwg & Stock Location: \_\_\_\_\_ Identify and pack for shipping as per PPP D206-667-207 Location: \_\_\_\_\_ PPP Rev: \_\_\_\_\_

280 - QC21- Final Inspection - Work Order Release

### Job BOM

| Part / Item     | Component Name                         | Quantity      | Operation             | Container        |
|-----------------|----------------------------------------|---------------|-----------------------|------------------|
| D206-667-247TRN | Crosstube Assembly, Mid Aft            | 1 Ea (1 ea)   | 90-Start up Operation | <u>S012458</u>   |
| D2873-043       | Nut Plate Assembly                     | 2 Ea (2 ea)   | 220-Crosstubes        |                  |
| D2873-045       | Nut Plate Assembly                     | 2 Ea (2 ea)   | 220-Crosstubes        |                  |
| MS20601-AD4W10  | Rivet                                  | 14 Ea (14 ea) | 220-Crosstubes        |                  |
| D2892-1         | Support                                | 2 Ea (2 ea)   | 230-Crosstubes        |                  |
| D3595-063-450   | Rubber Cushion 0.63" Wide X 4.50" Long | 4 Ea (4 ea)   | 230-Crosstubes        |                  |
| MS21920-22      | Clamp                                  | 4 Ea (4 ea)   | 230-Crosstubes        |                  |
| AN5-10A         | Bolt                                   | 10 Ea (10 ea) | 250-Packaging         | <u>S087283</u>   |
| AN5-32A         | Bolt                                   | 4 Ea (4 ea)   | 250-Packaging         | <u>S058983-1</u> |
| AN5-34A         | Bolt                                   | 4 Ea (4 ea)   | 250-Packaging         | <u>S019410</u>   |
| MS21042L5       | Nut                                    | 4 Ea (4 ea)   | 250-Packaging         | <u>S093592</u>   |
| NAS1149D0563J   | Washer                                 | 18 Ea (18 ea) | 250-Packaging         | <u>S058003</u>   |

### Job Allocations

| Operation             | Component Part                | Required                | Inventory | Allocated |
|-----------------------|-------------------------------|-------------------------|-----------|-----------|
| 90-Start up Operation | D206-667-247TRN               | 1                       | 12        | 0         |
| 220-Crosstubes        | D2873-043 <u>S090584</u>      | <u>2</u>                | 33        | 0         |
|                       | D2873-045 <u>S125817</u>      | <u>2</u>                | 21        | 0         |
|                       | MS20601-AD4W10 <u>S019432</u> | <u>16</u>               | 195       | 0         |
| 230-Crosstubes        | D2892-1 <u>S039250</u>        | <u>2</u>                | 16        | 0         |
|                       | D3595-063-450 <u>S127272</u>  | <u>4</u> <u>S070282</u> | 48        | 0         |
|                       | MS21920-22 <u>S105481</u>     | <u>4</u>                | 77        | 0         |
| 250-Packaging         | AN5-10A                       | 10                      | 253       | 0         |
|                       | AN5-32A                       | 4                       | 525       | 0         |
|                       | AN5-34A                       | 4                       | 79        | 0         |
|                       | MS21042L5                     | 4                       | 455       | 0         |
|                       | NAS1149D0563J                 | 18                      | 1,372     | 0         |

### Part Specifications

Specifications could not be found.

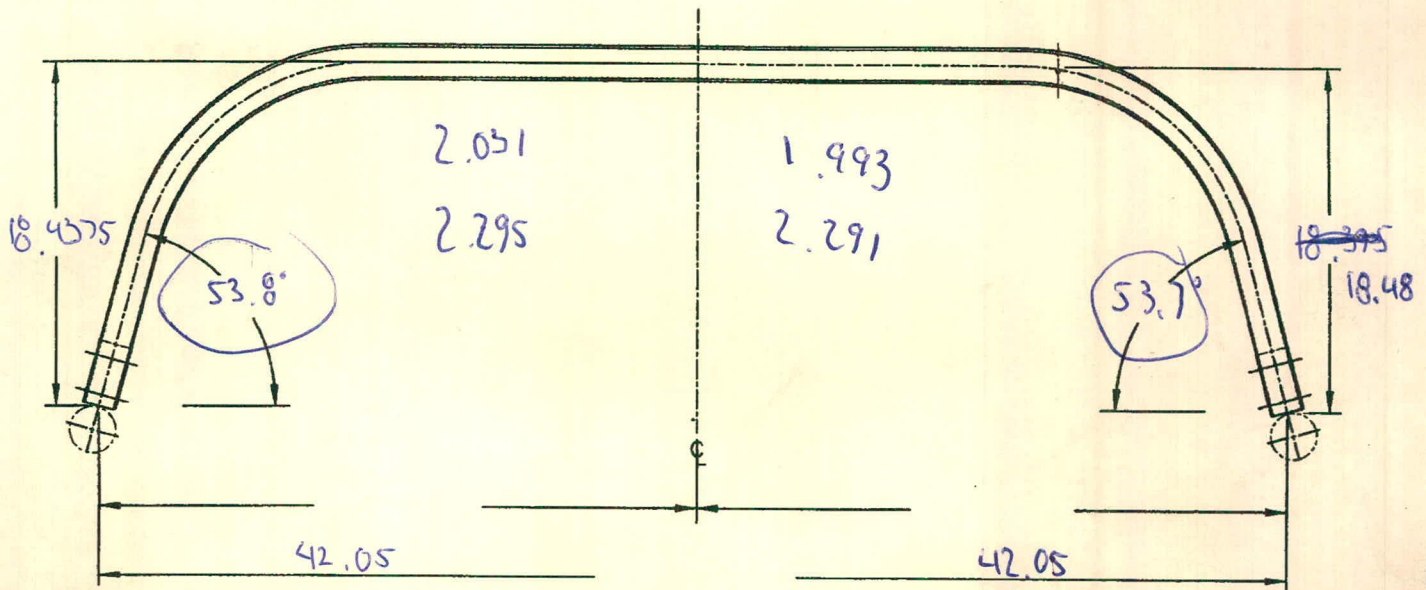






|                                                   |  |                                  |
|---------------------------------------------------|--|----------------------------------|
| <b>DART AEROSPACE LTD</b>                         |  | <b>Work Order:</b> 186178        |
| <b>Description:</b> Crosstube Mid Aft (206L)      |  | <b>Part Number:</b> D206-667-207 |
| <b>Inspection Dwg:</b> D206-667-247 <b>Rev:</b> A |  | <b>Page 1 of 1</b>               |

| Required Dimension | Min   | Max   |
|--------------------|-------|-------|
| Height             | 18.34 | 18.60 |
| 1/2 Span           | 41.79 | 42.05 |
| Angle              | 54°   | 56°   |
| Total Span         | 83.59 | 84.09 |
| Bending Passes     | 10    | --    |
| Crushing           | --    | 6%    |



|                              | Side A | Side B |
|------------------------------|--------|--------|
| Bending Passes               | 10     | 14     |
| Crushing                     | 6.1%   | 6.9%   |
| <b>Comments</b>              |        |        |
| Acceptable per DR-1059 Rev.A |        |        |
| DAS 12 18/11/21              |        |        |
| 3-00                         |        |        |

|                 |             |
|-----------------|-------------|
| QC15 Inspection | DAS 38 9-00 |
| Date            | NOV 21 2018 |

| Rev | Date     | Change                             | Revised by | Approved |
|-----|----------|------------------------------------|------------|----------|
| A   | 12.02.15 | New Issue                          | KJ         |          |
| B   | 12.04.16 | Added bending, crushing dimensions | KJ         |          |



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| Item | Qty<br>-247 | Part Number     | Description                       |
|------|-------------|-----------------|-----------------------------------|
| 1    | X           | D206-667-247    | CROSSTUBE ASSEMBLY (206L MID AFT) |
| 2    | 1           | D6004-115       | CROSSTUBE                         |
| 3    | 2           | D2873-043       | NUT PLATE                         |
| 4    | 2           | D2873-045       | NUT PLATE                         |
| 5    | 2           | D2892-1         | SUPPORT                           |
| 6    | 4           | D3595-063-450   | RUBBER CUSHION                    |
| 7    | 4           | MS21920-22      | CLAMP                             |
| 8    | 14          | MS20601AD4W10   | RIVET (OR NAS9302B-4-10)          |
| 9    | A/R         | PROSEAL 890 B-2 | SEALANT, AMS-S-8802 CLASS B-2     |

# **GENERAL NOTES:**

- 1) MATERIAL: MANUFACTURED FROM D6004-115  
FINISHED LENGTH = 99.78±0.020
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2  
PAINT OUTSIDE PER DART QSI 005 4.2
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED.
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- 6) IDENTIFICATION: SCRIBE DART PART NUMBER "D206-667-247" AND BATCH NUMBER ON INSIDE OF CUFF PER DART QSI 044 6.4 (VIBRATING STYLUS).
- 7) WEIGHT: 21.1 lbs (-607 = 17.7 lbs)
- 8) PART IS SYMMETRIC ABOUT CENTERLINE.
- 9) RUN CUTTER OFF PART WHERE INDICATED. BLEND OUT EDGE LONGITUDINALLY. TRANSITION SHOULD BE SMOOTH.
- 10) BEND PROGRESSIVELY WITH A MINIMUM OF 8 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.
- 11) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 12) TO INSTALL D2892-1 SUPPORT: ABRASE MATING SURFACE OF SUPPORT AND CROSSTUBE WITH 180-GRIT SANDPAPER AND REMOVE RESIDUE WITH MEK (OR EQUIVALENT). APPLY A 0.04" TO 0.07" THICK LAYER OF PROSEAL 890 CLASS B-2 (OR AMS-S-8802 CLASS B-2) SEALANT TO MATING SURFACE OF SUPPORT.
- 13) INSTALL MS21920-22 CLAMPS WITH D3595-063-450 RUBBER CUSHIONS TO SECURE THE D2892-1 SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMP MECHANISMS ARE LOCATED ON CROSSTUBE SUPPORTS.
- 14) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS ARE SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING. PRIOR TO PACKAGING, RE-CHECK TORQUE ON CLAMPS AFTER PROSEAL 890 SEALANT HAS CURED FOR 72 HOURS.

SHOP COPY  
RETURN TO  
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SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 186178MWS  
18-11-12

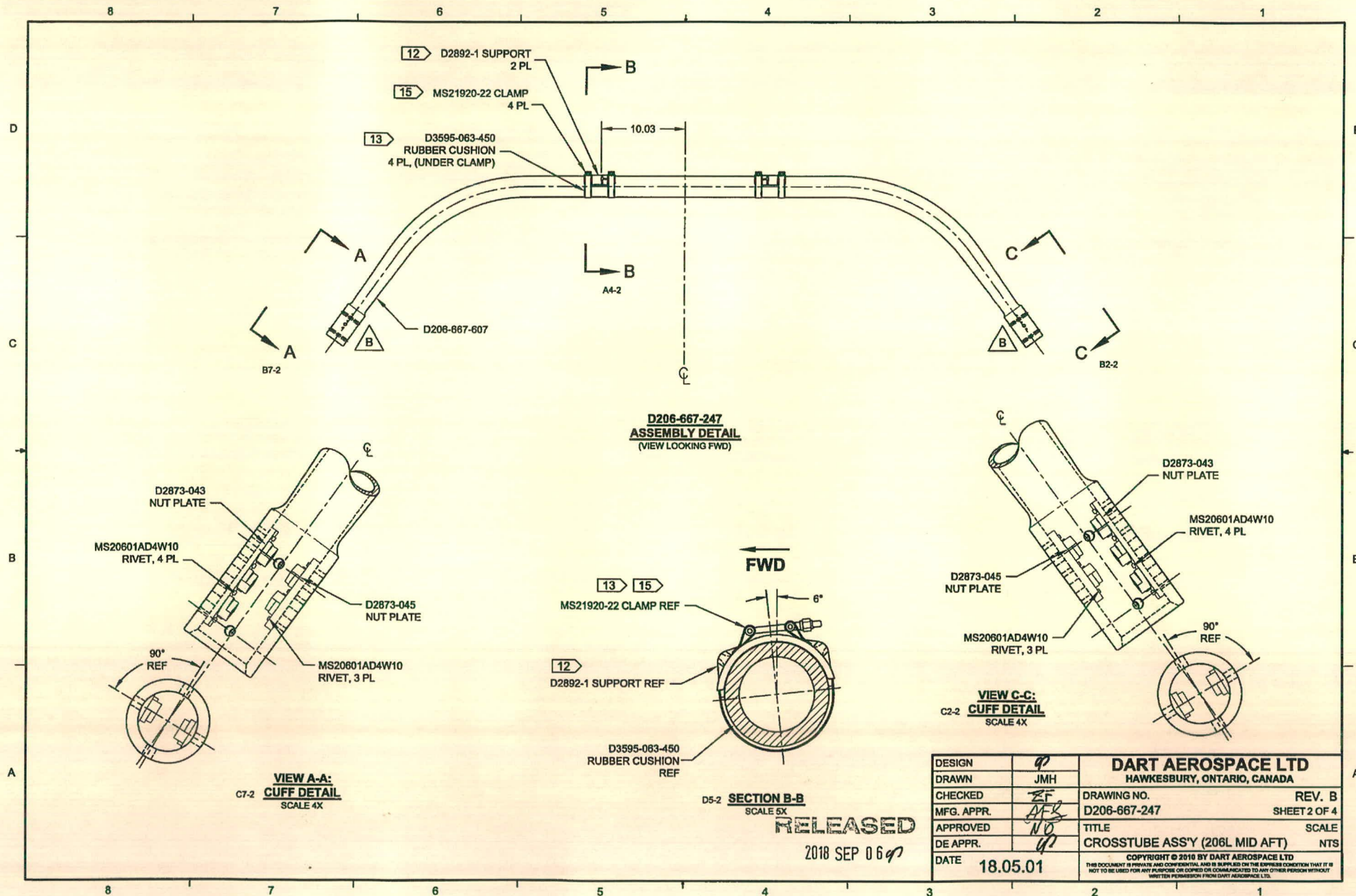
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2018 SEP 06  
EN 18-777

|            |                                                                                                                                |                                                                                                                                                                                                                                                                          |              |
|------------|--------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| B          | REVISE SHEET 2 ASSEMBLY DETAIL HOLE PATTERN PER CAR18-221. UPDATE PARTS LIST AND GENERAL NOTES 12 & 15 TO INCORPORATE DEO A-1. | JMH                                                                                                                                                                                                                                                                      | 18.05.01     |
| A          | NEW ISSUE                                                                                                                      | CP                                                                                                                                                                                                                                                                       | 10.12.23     |
| REV.       | DESCRIPTION                                                                                                                    | BY                                                                                                                                                                                                                                                                       | DATE         |
| DESIGN     | 47                                                                                                                             | DART AEROSPACE LTD<br>HAWKESBURY, ONTARIO, CANADA                                                                                                                                                                                                                        |              |
| DRAWN      | JMH                                                                                                                            | DRAWING NO.                                                                                                                                                                                                                                                              | REV. B       |
| CHECKED    | EF                                                                                                                             | D206-667-247                                                                                                                                                                                                                                                             | SHEET 1 OF 4 |
| MFG. APPR. | DFB                                                                                                                            | TITLE                                                                                                                                                                                                                                                                    | SCALE        |
| APPROVED   | NO                                                                                                                             | CROSSTUBE ASS'Y (206L MID AFT)                                                                                                                                                                                                                                           | NTS          |
| DE APPR.   | 47                                                                                                                             | COPYRIGHT © 2018 BY DART AEROSPACE LTD<br>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD. |              |
| DATE       | 18.05.01                                                                                                                       |                                                                                                                                                                                                                                                                          |              |







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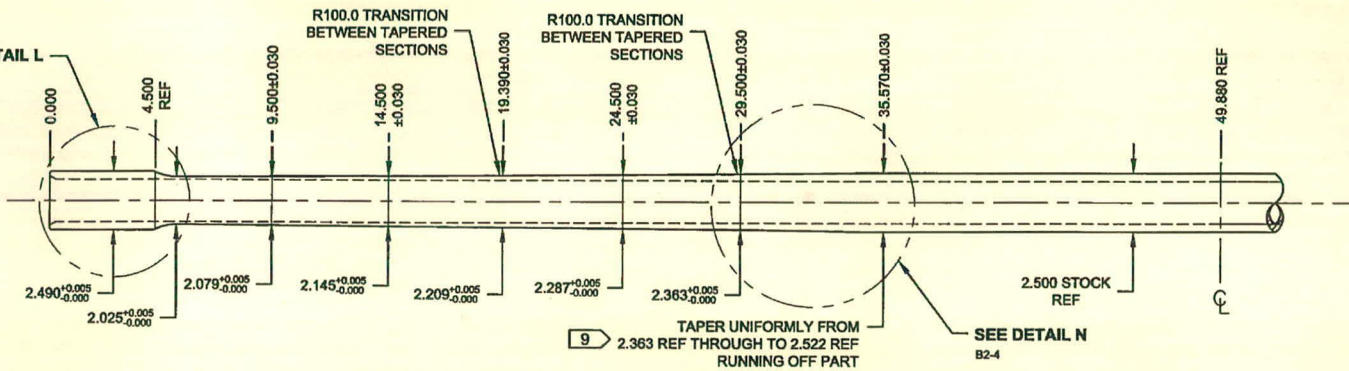




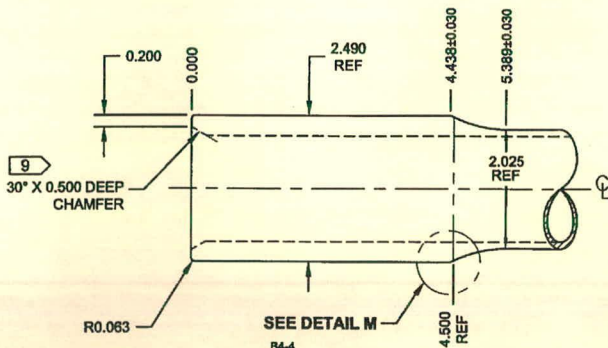




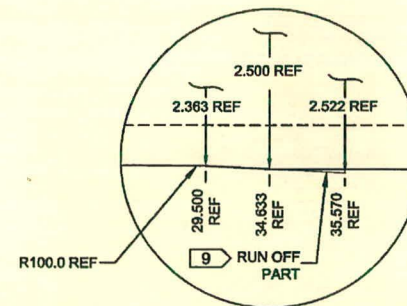
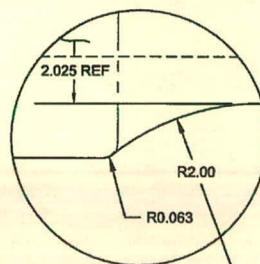
SEE DETAIL L  
B7-4



**TURNING DETAIL**



C7-4 **DETAIL L: CROSTUBE CUFF**  
SCALE 2.5X



RELEASED

2018 SEP 06

|            |          |                                                                                                                                                                                                                                                                          |              |
|------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| DESIGN     | 4P       | <b>DART AEROSPACE LTD</b>                                                                                                                                                                                                                                                |              |
| DRAWN      | JMH      | HAWKESBURY, ONTARIO, CANADA                                                                                                                                                                                                                                              |              |
| CHECKED    | ZF       | DRAWING NO.                                                                                                                                                                                                                                                              | REV. B       |
| MFG. APPR. | AFB      | D206-667-247                                                                                                                                                                                                                                                             | SHEET 4 OF 4 |
| APPROVED   | NO       | TITLE                                                                                                                                                                                                                                                                    | SCALE        |
| DE APPR.   | 4P       | CROSTUBE ASS'Y (206L MID AFT)                                                                                                                                                                                                                                            | NTS          |
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Entered: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. \_\_\_\_\_

Route update only ☐

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                            |                                                                 |                          |                                                                                                                                |                                     |                                        |                                      |                                    |                                    |                                            |                                    |                                    |                                    |                                              |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |  |  |  |  |                                          |                                        |                                           |                                           |                                  |                                                |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
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| Job: _____<br><br>Part No. _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input checked="" type="checkbox"/> | <b>DEPARTMENT/PROCESS</b><br><br><table style="width:100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Cross tube <input type="checkbox"/></td> <td>Eng. (Non-AW) <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Supplier Quality <input type="checkbox"/></td> </tr> </table> |                                            |                                                                 |                          | Skid-tube <input type="checkbox"/>                                                                                             | Cross tube <input type="checkbox"/> | Eng. (Non-AW) <input type="checkbox"/> | Engineering <input type="checkbox"/> | Machining <input type="checkbox"/> | Small Fab <input type="checkbox"/> | Prod. Eng. Coord. <input type="checkbox"/> | Water Jet <input type="checkbox"/> | Large Fab <input type="checkbox"/> | Finishing <input type="checkbox"/> | Rec/Store/Packaging <input type="checkbox"/> | Supplier Quality <input type="checkbox"/> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |  |  |  |  |                                          |                                        |                                           |                                           |                                  |                                                |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
| Skid-tube <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Cross tube <input type="checkbox"/>                                                                                                          | Eng. (Non-AW) <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Engineering <input type="checkbox"/>       |                                                                 |                          |                                                                                                                                |                                     |                                        |                                      |                                    |                                    |                                            |                                    |                                    |                                    |                                              |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |  |  |  |  |                                          |                                        |                                           |                                           |                                  |                                                |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
| Machining <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Small Fab <input type="checkbox"/>                                                                                                           | Prod. Eng. Coord. <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Water Jet <input type="checkbox"/>         |                                                                 |                          |                                                                                                                                |                                     |                                        |                                      |                                    |                                    |                                            |                                    |                                    |                                    |                                              |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |  |  |  |  |                                          |                                        |                                           |                                           |                                  |                                                |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
| Large Fab <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Finishing <input type="checkbox"/>                                                                                                           | Rec/Store/Packaging <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Supplier Quality <input type="checkbox"/>  |                                                                 |                          |                                                                                                                                |                                     |                                        |                                      |                                    |                                    |                                            |                                    |                                    |                                    |                                              |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |  |  |  |  |                                          |                                        |                                           |                                           |                                  |                                                |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
| Date : <u>18/11/21</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                              | Sequence #:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                            | QTY Affected :                                                  |                          | MRB (QSI042)                                                                                                                   |                                     |                                        |                                      |                                    |                                    |                                            |                                    |                                    |                                    |                                              |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |  |  |  |  |                                          |                                        |                                           |                                           |                                  |                                                |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
| Description Work Order Deviation<br><br><u>Angles are under tolerance after bending -</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                            | Disposition<br><br><u>Acceptable. will not cause fit issue.</u> |                          | INSP<br>12 <u>18/11/21</u><br><br>Completed By<br><u>18/11/21</u><br><br>Lead hand / Supervisor<br><br><br>QC / QA Coordinator |                                     |                                        |                                      |                                    |                                    |                                            |                                    |                                    |                                    |                                              |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |  |  |  |  |                                          |                                        |                                           |                                           |                                  |                                                |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
| <b>Root Cause</b><br><br><table style="width:100%;"> <tr><td>Operator</td><td><input type="checkbox"/></td></tr> <tr><td>Manufacturing Process</td><td><input type="checkbox"/></td></tr> <tr><td>Equip/Tooling</td><td><input type="checkbox"/></td></tr> <tr><td>Handling/Preservation</td><td><input type="checkbox"/></td></tr> <tr><td>Material</td><td><input type="checkbox"/></td></tr> <tr><td>Product Improvement</td><td><input type="checkbox"/></td></tr> <tr><td>Process Improvement</td><td><input type="checkbox"/></td></tr> <tr><td>Human Factors</td><td><input type="checkbox"/></td></tr> </table> |                                                                                                                                              | Operator                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <input type="checkbox"/>                   | Manufacturing Process                                           | <input type="checkbox"/> | Equip/Tooling                                                                                                                  | <input type="checkbox"/>            | Handling/Preservation                  | <input type="checkbox"/>             | Material                           | <input type="checkbox"/>           | Product Improvement                        | <input type="checkbox"/>           | Process Improvement                | <input type="checkbox"/>           | Human Factors                                | <input type="checkbox"/>                  | <b>FAULT CATEGORY</b><br><br><table style="width:100%;"> <tr> <td><input type="checkbox"/> Pressure/Forced</td> <td><input type="checkbox"/> Contamination</td> <td><input type="checkbox"/> Power Loss/Surge</td> <td><input type="checkbox"/> Positioned Wrong</td> </tr> <tr> <td><input type="checkbox"/> Bending</td> <td><input type="checkbox"/> Misaligned/off center</td> <td><input type="checkbox"/> Folio/Program</td> <td><input type="checkbox"/> Outside Tolerance</td> </tr> <tr> <td><input type="checkbox"/> Crushing</td> <td><input type="checkbox"/> BOM/Route</td> <td><input type="checkbox"/> Grain Direction</td> <td><input type="checkbox"/> Drawing</td> </tr> <tr> <td><input type="checkbox"/> Cracks</td> <td><input type="checkbox"/> Broken/Damage/Defect</td> <td><input type="checkbox"/> Weld</td> <td><input type="checkbox"/> Finish</td> </tr> <tr> <td><input type="checkbox"/> Crimp/Kink/Ripple/Wave/Twist</td> <td><input type="checkbox"/> Incomplete/Unclear Instructions</td> <td><input type="checkbox"/> Wrong Stock Pulled</td> <td><input type="checkbox"/> Part Lost/Missing</td> </tr> <tr> <td><input type="checkbox"/> Marks/Chatter</td> <td><input type="checkbox"/> Drill Holes</td> <td><input type="checkbox"/> Out of Sequence</td> <td><input type="checkbox"/> Misread</td> </tr> <tr> <td><input type="checkbox"/> Mislabeled</td> <td><input type="checkbox"/> Fit/Function</td> <td><input type="checkbox"/> Off-set/Set-up</td> <td></td> </tr> </table> |  |  |  |  |  | <input type="checkbox"/> Pressure/Forced | <input type="checkbox"/> Contamination | <input type="checkbox"/> Power Loss/Surge | <input type="checkbox"/> Positioned Wrong | <input type="checkbox"/> Bending | <input type="checkbox"/> Misaligned/off center | <input type="checkbox"/> Folio/Program | <input type="checkbox"/> Outside Tolerance | <input type="checkbox"/> Crushing | <input type="checkbox"/> BOM/Route | <input type="checkbox"/> Grain Direction | <input type="checkbox"/> Drawing | <input type="checkbox"/> Cracks | <input type="checkbox"/> Broken/Damage/Defect | <input type="checkbox"/> Weld | <input type="checkbox"/> Finish | <input type="checkbox"/> Crimp/Kink/Ripple/Wave/Twist | <input type="checkbox"/> Incomplete/Unclear Instructions | <input type="checkbox"/> Wrong Stock Pulled | <input type="checkbox"/> Part Lost/Missing | <input type="checkbox"/> Marks/Chatter | <input type="checkbox"/> Drill Holes | <input type="checkbox"/> Out of Sequence | <input type="checkbox"/> Misread | <input type="checkbox"/> Mislabeled | <input type="checkbox"/> Fit/Function | <input type="checkbox"/> Off-set/Set-up |  |
| Operator                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <input type="checkbox"/>                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                            |                                                                 |                          |                                                                                                                                |                                     |                                        |                                      |                                    |                                    |                                            |                                    |                                    |                                    |                                              |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |  |  |  |  |                                          |                                        |                                           |                                           |                                  |                                                |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
| Manufacturing Process                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <input type="checkbox"/>                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                            |                                                                 |                          |                                                                                                                                |                                     |                                        |                                      |                                    |                                    |                                            |                                    |                                    |                                    |                                              |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |  |  |  |  |                                          |                                        |                                           |                                           |                                  |                                                |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
| Equip/Tooling                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <input type="checkbox"/>                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                            |                                                                 |                          |                                                                                                                                |                                     |                                        |                                      |                                    |                                    |                                            |                                    |                                    |                                    |                                              |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |  |  |  |  |                                          |                                        |                                           |                                           |                                  |                                                |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
| Handling/Preservation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <input type="checkbox"/>                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                            |                                                                 |                          |                                                                                                                                |                                     |                                        |                                      |                                    |                                    |                                            |                                    |                                    |                                    |                                              |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |  |  |  |  |                                          |                                        |                                           |                                           |                                  |                                                |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
| Material                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <input type="checkbox"/>                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                            |                                                                 |                          |                                                                                                                                |                                     |                                        |                                      |                                    |                                    |                                            |                                    |                                    |                                    |                                              |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |  |  |  |  |                                          |                                        |                                           |                                           |                                  |                                                |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
| Product Improvement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <input type="checkbox"/>                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                            |                                                                 |                          |                                                                                                                                |                                     |                                        |                                      |                                    |                                    |                                            |                                    |                                    |                                    |                                              |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |  |  |  |  |                                          |                                        |                                           |                                           |                                  |                                                |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
| Process Improvement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <input type="checkbox"/>                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                            |                                                                 |                          |                                                                                                                                |                                     |                                        |                                      |                                    |                                    |                                            |                                    |                                    |                                    |                                              |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |  |  |  |  |                                          |                                        |                                           |                                           |                                  |                                                |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
| Human Factors                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <input type="checkbox"/>                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                            |                                                                 |                          |                                                                                                                                |                                     |                                        |                                      |                                    |                                    |                                            |                                    |                                    |                                    |                                              |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |  |  |  |  |                                          |                                        |                                           |                                           |                                  |                                                |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
| <input type="checkbox"/> Pressure/Forced                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <input type="checkbox"/> Contamination                                                                                                       | <input type="checkbox"/> Power Loss/Surge                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <input type="checkbox"/> Positioned Wrong  |                                                                 |                          |                                                                                                                                |                                     |                                        |                                      |                                    |                                    |                                            |                                    |                                    |                                    |                                              |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |  |  |  |  |                                          |                                        |                                           |                                           |                                  |                                                |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
| <input type="checkbox"/> Bending                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <input type="checkbox"/> Misaligned/off center                                                                                               | <input type="checkbox"/> Folio/Program                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <input type="checkbox"/> Outside Tolerance |                                                                 |                          |                                                                                                                                |                                     |                                        |                                      |                                    |                                    |                                            |                                    |                                    |                                    |                                              |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |  |  |  |  |                                          |                                        |                                           |                                           |                                  |                                                |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
| <input type="checkbox"/> Crushing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <input type="checkbox"/> BOM/Route                                                                                                           | <input type="checkbox"/> Grain Direction                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <input type="checkbox"/> Drawing           |                                                                 |                          |                                                                                                                                |                                     |                                        |                                      |                                    |                                    |                                            |                                    |                                    |                                    |                                              |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |  |  |  |  |                                          |                                        |                                           |                                           |                                  |                                                |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
| <input type="checkbox"/> Cracks                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <input type="checkbox"/> Broken/Damage/Defect                                                                                                | <input type="checkbox"/> Weld                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <input type="checkbox"/> Finish            |                                                                 |                          |                                                                                                                                |                                     |                                        |                                      |                                    |                                    |                                            |                                    |                                    |                                    |                                              |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |  |  |  |  |                                          |                                        |                                           |                                           |                                  |                                                |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
| <input type="checkbox"/> Crimp/Kink/Ripple/Wave/Twist                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <input type="checkbox"/> Incomplete/Unclear Instructions                                                                                     | <input type="checkbox"/> Wrong Stock Pulled                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <input type="checkbox"/> Part Lost/Missing |                                                                 |                          |                                                                                                                                |                                     |                                        |                                      |                                    |                                    |                                            |                                    |                                    |                                    |                                              |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |  |  |  |  |                                          |                                        |                                           |                                           |                                  |                                                |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
| <input type="checkbox"/> Marks/Chatter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <input type="checkbox"/> Drill Holes                                                                                                         | <input type="checkbox"/> Out of Sequence                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <input type="checkbox"/> Misread           |                                                                 |                          |                                                                                                                                |                                     |                                        |                                      |                                    |                                    |                                            |                                    |                                    |                                    |                                              |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |  |  |  |  |                                          |                                        |                                           |                                           |                                  |                                                |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
| <input type="checkbox"/> Mislabeled                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <input type="checkbox"/> Fit/Function                                                                                                        | <input type="checkbox"/> Off-set/Set-up                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                            |                                                                 |                          |                                                                                                                                |                                     |                                        |                                      |                                    |                                    |                                            |                                    |                                    |                                    |                                              |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |  |  |  |  |                                          |                                        |                                           |                                           |                                  |                                                |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
| Other/Details:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                            |                                                                 |                          |                                                                                                                                |                                     |                                        |                                      |                                    |                                    |                                            |                                    |                                    |                                    |                                              |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |  |  |  |  |                                          |                                        |                                           |                                           |                                  |                                                |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |









Dart Aerospace Ltd.  
1270 Aberdeen St  
Hawkesbury, ON  
K6A 1K7  
Canada

Tel (613) 632-5200

# **PURCHASE ORDER** **PO041903**

**Supplier:** SKY002-VC  
Skyservice  
6120 Midfield Road  
Mississauga  
ON  
L5P 1B1 Canada  
Phone: 905-678-5636  
Fax: 905-678-5841

**PO No:** PO041903  
**PO Date:** 11/29/18  
**Due Date:** 12/4/18  
**Purchase Order**  
**Revision:**  
**Revision Date:**  
**Ship-To Contact:** Tsimiklis, ChrisoulaPhone:

**Ship To:** 1270 Aberdeen Street  
Hawkesbury  
ON  
K6A 1K7 Canada  
Phone: 613-632-5200

**Via:** Ground  
**Pynt Terms:** Net 30  
**Freight Terms:**  
**Special Comments:**

## Items

| Line Item         | Job    | Part           | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Status | Account | Due Date | Order Quantity | Received Quantity | Balance  | Unit Price (CAD) | Extended Price  |
|-------------------|--------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|---------|----------|----------------|-------------------|----------|------------------|-----------------|
| 1                 | 185375 | D212-664-101   | Fwd Crosstube - High<br>: TC STC SH01-9 Issue 3,<br>FAA STC SR01298NY<br>09/01/08, EASA STC<br>EASA.IM.R.S.01304 07/03/06,<br>DGAC MEXICO STC IA-<br>316/2015 15/06/17<br>*** WEAR LATEX GLOVES<br>WHEN HANDLING<br>CROSSTUBE*** Liquid<br>Penetrant Inspection as per<br>QSI 038 LPI as per ASTM<br>1417 Level 2 Attach copy of<br>NDT results to work order                                                                                                                                                               | Firmed | -       | 12/4/18  | 1 pcs          | 0 pcs             | 1 pcs    | \$172.00/pcs     | \$172.00        |
| 2                 | 186178 | D206-667-207BL | Aft Crosstube - Mid Height<br>206L / L1 / L3 / L4, Blue<br>: TC STC SH01-5 Issue 3,<br>FAA STC SR01304NY<br>05/12/15, JCAB JAPAN STC-<br>32-OSA 02/02/28, EASA STC<br>EASA.IM.R.S.01179 06/07/03,<br>BRAZIL 2009S08-16 09/08/25,<br>BRAZIL 2009S08-17 09/08/25<br>Outsource process - NDT per<br>QSI038 4.1<br>*** WEAR LATEX GLOVES<br>WHEN HANDLING<br>CROSSTUBE*** Liquid<br>Penetrant Inspection as per<br>QSI 038Or Issue<br>P/O: _____ LPI as per<br>ASTM 1417 Level 2 Attach<br>copy of NDT results to work<br>order | Firmed | -       | 12/4/18  | 1 pcs          | 0 pcs             | 1 pcs    | \$172.00/pcs     | \$172.00        |
|                   | 186179 |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Firmed | -       | 12/4/18  | 1 pcs          | 0 pcs             | 1 pcs    | \$172.00/pcs     | \$172.00        |
| <b>Sub Total:</b> |        |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |        |         |          | <b>2</b>       | <b>0</b>          | <b>2</b> |                  | <b>\$344.00</b> |







Dart Aerospace Ltd.  
1270 Aberdeen St  
Hawkesbury, ON  
K6A 1K7  
Canada

Tel (613) 632-5200

# **PURCHASE ORDER** **PO041903**

| Items               |        |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |        |         |          |                |                   |          |                  |                 |
|---------------------|--------|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|---------|----------|----------------|-------------------|----------|------------------|-----------------|
| Line Item           | Job    | Part           | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Status | Account | Due Date | Order Quantity | Received Quantity | Balance  | Unit Price (CAD) | Extended Price  |
| 3                   | 186174 | D206-667-107BL | Fwd Crosstube - Mid Height<br>206L / L1 / L3 / L4, Blue<br>: TC STC SH01-5 Issue 3,<br>FAA STC SR01304NY<br>05/12/15, JCAB JAPAN STC-<br>32-OSA 02/02/28, EASA STC<br>EASA.IM.R.S.01179 06/07/03,<br>BRAZIL 2009S08-16 09/08/25,<br>BRAZIL 2009S08-17 09/08/25<br>*** WEAR LATEX GLOVES<br>WHEN HANDLING<br>CROSSTUBE*** Liquid<br>Penetrant Inspection as per<br>QSI 038Or Issue<br>P/O: _____ LPI as per<br>ASTM 1417 Level 2 Attach<br>copy of NDT results to work<br>order | Firmed | -       | 12/4/18  | 1 pcs          | 0 pcs             | 1 pcs    | \$172.00/pcs     | \$172.00        |
|                     | 186177 |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Firmed | -       | 12/4/18  | 1 pcs          | 0 pcs             | 1 pcs    | \$172.00/pcs     | \$172.00        |
| <b>Sub Total:</b>   |        |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |        |         |          | <b>2</b>       | <b>0</b>          | <b>2</b> |                  | <b>\$344.00</b> |
| <b>Grand Total:</b> |        |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |        |         |          |                |                   |          | <b>\$860.00</b>  |                 |

## Order Notes

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit [www.dartaerospace.com](http://www.dartaerospace.com) for further explanation.

Plex 12/3/18 9:04 AM dart.tsimiklis.chrisoula





**skyservice****Work Order Traveler**

Sky Service F.B.O. Inc.

10105 Ryan Avenue, Dorval, Quebec, H9P 1A2

TCCA AMO 53-89 / EASA 145.7142 / BDA AMO 385

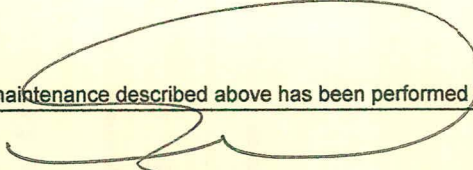
|                          |                               |               |                     |
|--------------------------|-------------------------------|---------------|---------------------|
| WO #: MWO38417           | Customer: Dart Aerospace Ltd. | Dept: NDT YUL | Reference: PO041903 |
| Descr:                   | PN:                           | S/N:          | Qty: 1              |
| Make:                    | Model:                        | Reg:          | A/C S/N:            |
| TSN:                     | CSN:                          | TSO:          |                     |
| Task: <b>UNSCHEDULED</b> |                               |               | Sequence: 1         |

**Work Required:****CARRY OUT NDT ON:**

- ✓ 1 FWD CROSSTUBE , P/N# D212-664-101 , J/S# 185375
- ✓ 2 FWD CROSSTUBES , P/N# D206-667-107BL , J/S# 186174 , 186177
- ✓ 2 AFT CROSSTUBES , P/N# D206-667-207BL , J/S# 186178 , 186179

| <b>Action Taken:</b>                                                            |          |     |     |       |         | Date:       | Initial/Stamp:                                                                                                |
|---------------------------------------------------------------------------------|----------|-----|-----|-------|---------|-------------|---------------------------------------------------------------------------------------------------------------|
| LPI C/O IAW ASTM E-1417M-16                                                     |          |     |     |       |         | NOV 30 2018 | <br>DOT-APP<br>20<br>53-89 |
| NO CRACK FOUND                                                                  |          |     |     |       |         |             |                                                                                                               |
| PEN. ZL-56, MPO13600, CLEANER SKC-S MPO13923 , DEV. MPO11715 , UV LIGHT M-20142 |          |     |     |       |         |             |                                                                                                               |
| Description                                                                     | Location | P/N | Qty | Batch | S/N Off | S/N On      |                                                                                                               |
|                                                                                 |          |     |     |       |         |             |                                                                                                               |
|                                                                                 |          |     |     |       |         |             |                                                                                                               |
|                                                                                 |          |     |     |       |         |             |                                                                                                               |
|                                                                                 |          |     |     |       |         |             |                                                                                                               |
|                                                                                 |          |     |     |       |         |             |                                                                                                               |
|                                                                                 |          |     |     |       |         |             |                                                                                                               |
|                                                                                 |          |     |     |       |         |             |                                                                                                               |

I certified that the maintenance described above has been performed in accordance with the applicable standard of airworthiness.

|                                                                                                |                                         |                      |
|------------------------------------------------------------------------------------------------|-----------------------------------------|----------------------|
| Signature:  | ACA/SCA Stamp<br>DOT-APP<br>20<br>53-89 | Date:<br>NOV 30 2018 |
| Name: <b>RAFIK MELIKIAN</b>                                                                    |                                         |                      |

